47482 Access DB# 14083

# SEARCH REQUEST FORM

## Scientific and Technical Information Center

Requester's Full Name: Robert Landsman Examiner #: 77569 Date: 7-25-01

Art Unit: 1647 Phone Number 306-3407 Serial Number: 09/640,852

Mail Box and Bldg/Room Location: Room NO 46th Floor Results Format Preferred (circle): PAPER DISK E-MAIL

10001

**If more than one search is submitted, please prioritize searches in order of need.**

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Treatment of tumors ...

Inventors (please provide full names): Nehme et al.

Earliest Priority Filing Date: 8-17-00

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search the structure.

*Edward Hart*
*Technical Info Specialist*
*STIC / Biotech*
*CM1 12C14 Tel: 305-9203*

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| STAFF USE ONLY | Type of Search | Vendors and cost where applicable |
|---|---|---|
| Searcher: | NA Sequence (#) | (STN) |
| Searcher Phone #: | AA Sequence (#) | Dialog |
| Searcher Location: | Structure (#) | Questel/Orbit: |
| Date Searcher Picked Up: 8/3/01 | Bibliographic | Dr.Link |
| Date Completed: 8/10/01 | Litigation | Lexis/Nexis |
| Searcher Prep & Review Time | Fulltext | Sequence Systems |
| Clerical Prep Time: | Patent Family | WWW/Internet |
| Online Time: | Other | Other (specify) |

PTO-1590 (1-2000)

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FILE COVERS 1947 - 16 Aug 2001 VOL 135 ISS 8
FILE LAST UPDATED: 15 Aug 2001 (20010815/ED)

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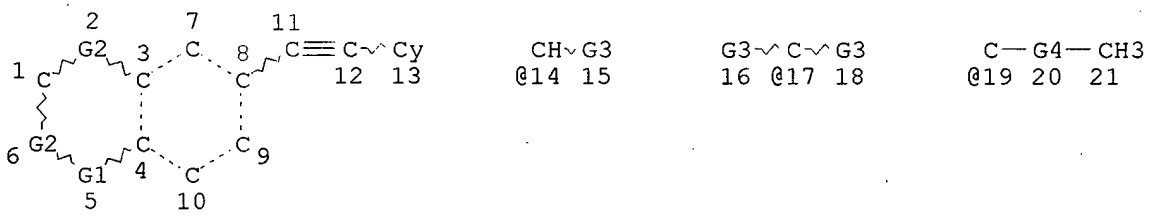
L3 STR

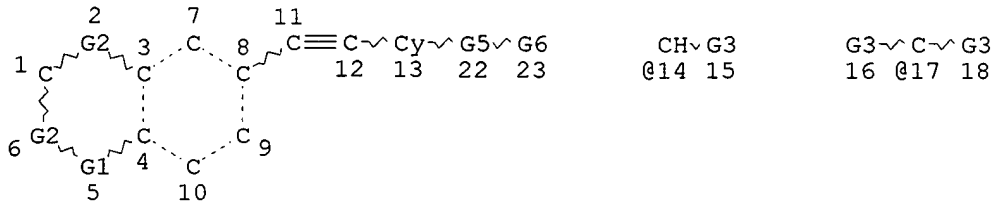



VAR G1=O/S
VAR G2=CH2/14/17
VAR G3=ME/ET/I-PR/N-PR/I-BU/T-BU/S-BU/N-BU/19
REP G4=(3-4) C
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE
L5 72 SEA FILE=REGISTRY SSS FUL L3
L7 STR

Searched by Edward Hart 305-9203




VAR G1=O/S
VAR G2=CH2/14/17
VAR G3=ME/ET/I-PR/N-PR/I-BU/T-BU/S-BU/N-BU/19
REP G4=(3-4) C
REP G5=(0-5) C
VAR G6=25/28
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 29

STEREO ATTRIBUTES: NONE
L9 54 SEA FILE=REGISTRY SUB=L5 SSS FUL L7
L10 81 SEA FILE=CAPLUS ABB=ON PLU=ON L9
L11 21 SEA FILE=CAPLUS ABB=ON PLU=ON L10 (L) (?PHARM? OR ?MEDIC? OR ?DRUG? OR ?THERAP?)

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L11 ANSWER 1 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2001:396644 CAPLUS
DOCUMENT NUMBER: 135:24671
TITLE: Solid carriers for improved delivery of active ingredients in pharmaceutical compositions
INVENTOR(S): Patel, Manesh V.; Chen, Feng-jing
PATENT ASSIGNEE(S): Lipocine, Inc., USA
SOURCE: PCT Int. Appl., 107 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001037808 | A1 | 20010531 | WO 2000-US32255 | 20001122 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

Searched by Edward Hart 305-9203

US 6248363 B1 20010619 US 1999-447690 19991123
PRIORITY APPLN. INFO.: US 1999-447690 A 19991123
AB The present invention provides solid pharmaceutical compns. for improved delivery of a wide variety of pharmaceutical active ingredients contained therein or sep. administered. In one embodiment, the solid pharmaceutical compn. includes a solid carrier, the solid carrier including a substrate and an encapsulation coat on the substrate. The encapsulation coat can include different combinations of pharmaceutical active ingredients, hydrophilic surfactant, lipophilic surfactants and triglycerides. In another embodiment, the solid pharmaceutical compn. includes a solid carrier, the solid carrier being formed of different combinations of pharmaceutical active ingredients, hydrophilic surfactants, lipophilic surfactants and triglycerides. The compns. of the present invention can be used for improved delivery of hydrophilic or hydrophobic pharmaceutical active ingredients, such as drugs, nutritionals, cosmeceuticals and diagnostic agents. A compn. contained glyburide 1, PEG 40 stearate 33, glycerol monolaurate 17, and nonpareil seed 80 g.
IT **118292-40-3**, Tazarotene
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(solid carriers for improved delivery of active ingredients in **pharmaceutical** compns.)
REFERENCE COUNT: 4
REFERENCE(S): (1) Cho; US 4849227 A 1989 CAPLUS
(2) Desieno; US 5573783 A 1996 CAPLUS
(3) Harrison; US 4717569 A 1988 CAPLUS
(4) Stetsko; US 5340589 A 1994 CAPLUS

L11 ANSWER 2 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2001:31287 CAPLUS
DOCUMENT NUMBER: 134:105670
TITLE: Pharmaceutical and cosmetic compositions containing oligosaccharide aldonic acids and their topical use
INVENTOR(S): Yu, Ruey J.; Van Scott, Eugene J.
PATENT ASSIGNEE(S): USA
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001001932 | A2 | 20010111 | WO 2000-US16301 | 20000628 |
| WO 2001001932 | A3 | 20010517 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-141264 P 19990630
US 2000-487228 A 20000119
OTHER SOURCE(S): MARPAT 134:105670
AB Compns. comprising oligosaccharide aldonic acids are useful for general care, as well as for treatment and prevention, of various cosmetic conditions and dermatol. disorders, including those assocd. with intrinsic and/or extrinsic aging, as well as with changes or damage caused by extrinsic factors; general care, as well as treatment and prevention of diseases and conditions, of the oral, and vaginal mucosa; for general oral care, as well as treatment and prevention of oral and gum diseases; and

for wound healing of the skin. Compns. comprising oligosaccharide aldonic acids may further comprise a cosmetic, pharmaceutical or other topical agent to enhance or create synergetic effects. A cream was prepd. by mixing 50 g of 50% maltobionic acid with 50 g oil-in-water base, pH = 1.7. Efficacy of topical maltobionic acid in treatment of dry skin is reported.

IT **118292-40-3**, Tazarotene
RL: BAC (Biological activity or effector, except adverse); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**pharmaceutical** and cosmetic compns. contg. oligosaccharide aldonic acids and their topical use)

L11 ANSWER 3 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:623739 CAPLUS
DOCUMENT NUMBER: 133:198700
TITLE: Treatment of warts with tazarotene pharmaceuticals
INVENTOR(S): Weber, Paul J.; Da Silva, Luiz B.; Weber, Michael R.
PATENT ASSIGNEE(S): USA
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| US 6114348 | A | 20000905 | US 1999-265776 | 19990310 |

AB A method and compn. for topically treating non-metastasizing skin eruptions of warts with tazarotene in a suitable pharmaceutical compn. The compns. can include corticosteroids or fluorouracil. A gel was prepd. by admixing the following ingredients; Carbomer 940 2.10, xanthan gum 0.15, propylene glycol 51.94, dipropylene glycol 15.00, ethoxydiglycol 15.00, dimethylisosorbide 11.00, Aloe Vera gel 2.00, surfactant 0.05, dexamethasone 2.00, and tazarotene 0.76% by wt.

IT **118292-40-3**, Tazarotene
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(treatment of warts with tazarotene **pharmaceuticals**)

REFERENCE COUNT: 7
REFERENCE(S):
(1) Farng; US 5643584 1997 CAPLUS
(2) Kligman; US 4877805 1989 CAPLUS
(3) Nagpal; US 5776687 1998 CAPLUS
(4) Pershadsingh; US 6028088 2000 CAPLUS
(5) Weinkauf; US 5855893 1999 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 4 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:608551 CAPLUS
DOCUMENT NUMBER: 133:213151
TITLE: Pharmaceutical compositions and methods for improved delivery of hydrophobic therapeutic agents
INVENTOR(S): Patel, Manesh V.; Chen, Feng-Jing
PATENT ASSIGNEE(S): Lipocine, Inc., USA
SOURCE: PCT Int. Appl., 98 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2000050007 | A1 | 20000831 | WO 2000-US165 | 20000105 |

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-258654 A 19990226

AB The present invention relates to triglyceride-free pharmaceutical compns. for delivery of hydrophobic therapeutic agents. Compns. of the present invention include a hydrophobic therapeutic agent and a carrier, where the carrier is formed from a combination of a hydrophilic surfactant and a hydrophobic surfactant. Upon diln. with an aq. solvent, the compn. forms a clear, aq. dispersion of the surfactants contg. the therapeutic agent. The invention also provides methods of treatment with hydrophobic therapeutic agents using these compns. A pharmaceutical compn. contained cyclosporin 0.14, Cremophor RH-40 0.41, Arlacel186 0.29, sodium taurocholate 0.26, and propylene glycol 0.46 mg.

IT **118292-40-3**, Tazarotene
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**pharmaceutical** compns. and methods for improved delivery of hydrophobic **therapeutic** agents)

REFERENCE COUNT: 4
REFERENCE(S):
(1) Crooks; US 4572915 A 1986 CAPLUS
(2) Muller; US 4719239 A 1988 CAPLUS
(3) Schmidt; US 4727109 A 1988 CAPLUS
(4) Story; US 4944949 A 1990 CAPLUS

L11 ANSWER 5 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:750506 CAPLUS
DOCUMENT NUMBER: 131:331634
TITLE: Clinical pharmacokinetics and drug metabolism of tazarotene: a novel topical treatment for acne and psoriasis
AUTHOR(S): Tang-Liu, Diane D.-S.; Matsumoto, Richard M.; Usansky, Joel I.
CORPORATE SOURCE: Department of Pharmacokinetics and Drug Metabolism, Allergan, Irvine, CA, USA
SOURCE: Clin. Pharmacokinet. (1999), 37(4), 273-287
CODEN: CPKNDH; ISSN: 0312-5963
PUBLISHER: Adis International Ltd.
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 65 refs. Tazarotene (AGN 190168) is a new acetylenic retinoid which is effective for the topical treatment of patients with stable plaque psoriasis and mild to moderate acne vulgaris. Topical gel application provides direct delivery of tazarotene into the skin. At 10 h after a topical application of 0.1% tazarotene gel to the skin of healthy individuals and patients with psoriasis, approx. 4-6% of the dose resided in the stratum corneum and 2% of the dose was distributed to the viable epidermis and dermis. Tazarotene is rapidly hydrolyzed by esterases to its active metabolite, tazarotenic acid. Tazarotenic acid does not accumulate in adipose tissue but undergoes further metab. to its sulfoxide and to other polar metabolites and is rapidly eliminated via both urinary and fecal pathways with a terminal half-life of about 18 h. Percutaneous absorption is similar between healthy individuals and patients with facial acne, leading to plasma concns. <1 .mu.g/L. The systemic bioavailability of tazarotene (measured as tazarotenic acid) is low, approx. 1% after single and multiple topical applications to healthy skin. In patients with psoriasis under typical conditions of use, systemic bioavailability increased during the initial 2 wk of treatment from 1% (single dose) to .ltoreq.5%. The increased bioavailability is probably related to

decreases in plaque elevation and scaling due to successful treatment, resulting in a less effective skin penetration barrier to tazarotene. Steady-state concns. of tazarotenic acid are achieved within 2 wk of topical treatment in both healthy and psoriatic skin types. The large variability in plasma concns. in patients with psoriasis is probably because of the large differences in lesional skin condition, the amt. of drug applied and the surface area of application. There was no significant drug accumulation in the body with long-term treatment of patients with psoriasis. Topical administration of tazarotene requires dosages much smaller than those usually required for oral retinoids, such as isotretinoin, acitretin and etretinate, and it delivers the drug directly into the target skin tissues. The low systemic absorption and rapid systemic elimination of tazarotene and tazarotenic acid result in limited systemic exposure. Thus, topical tazarotene has a low potential for systemic adverse effects and is effective in the treatment of patients with acne and psoriasis.

IT **118292-40-3**, Tazarotene
RL: ADV (Adverse effect, including toxicity); BPR (Biological process); BIOL (Biological study); PROC (Process)
(**pharmacokinetics** and metab. of tazarotene in humans with acne and psoriasis)

REFERENCE COUNT: 65
REFERENCE(S):
(2) Allen, J; Pharmacol Ther 1989, V40(1), P1 CAPLUS
(32) Chandraratna, R; Br J Dermatol 1996, V135, P18 CAPLUS
(33) Chien, D; Drug Metab Dispos 1992, V20(2), P211 CAPLUS
(40) Hsyu, P; Biopharm Drug Dispos 1994, V15, P347 CAPLUS
(49) Liu, S; Drug Metab Dispos 1990, V18(6), P1071 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 6 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:306121 CAPLUS
DOCUMENT NUMBER: 130:347390
TITLE: Combination therapy with tazarotene plus a topical corticosteroid for the treatment of plaque psoriasis
AUTHOR(S): Gollnick, H.; Menter, A.
CORPORATE SOURCE: Department of Dermatology & Venereology, Otto-von-Guericke-Universitat, Magdeburg, Germany
SOURCE: Br. J. Dermatol., Suppl. (1999), 140(54), 18-23
CODEN: BJDSA9; ISSN: 0366-077X
PUBLISHER: Blackwell Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Although tazarotene monotherapy is generally efficacious and well tolerated, studies show that both the efficacy and the tolerability of tazarotene therapy can be further improved when it is used in combination with certain topical corticosteroids. The studies reported here evaluate the usefulness of two potential combination regimens. In one regimen, a corticosteroid is added to tazarotene treatment. In the other regimen, corticosteroid treatment alternates on a daily basis with tazarotene treatment. The results of the first study, which involved 300 patients, showed that additive combination therapy using tazarotene plus a mid- or high-potency topical corticosteroid significantly increased the percentage of plaques achieving treatment success at the end of the treatment period, compared with tazarotene plus placebo (91% and 95% vs. 80%, resp.; $P<0.05$ for both). Similarly, tazarotene plus a mid- or high-potency topical corticosteroid reduced the incidence of patient withdrawals compared with tazarotene plus placebo (5.5% and 9.6% vs. 13.3%). The results of the second study, which involved 398 patients, showed that a combination regimen that alternates between tazarotene and a high-potency topical corticosteroid treatment each day, significantly increased the treatment

success rate compared with regimens using tazarotene alternating with a mid-potency corticosteroid or placebo (75% vs. 55% and 54%, resp., at the end of the treatment period; P<0.05 for both). In addn., there was a trend towards a lower incidence of treatment-related adverse events as corticosteroid potency increased (from 42% with tazarotene plus placebo to 36%, 32%, and 31% with tazarotene plus the low-, mid-, and high-potency corticosteroid, resp.). Both treatment regimens are potentially useful and offer a rational approach to optimizing the efficacy and tolerability of tazarotene treatment for plaque psoriasis.

IT **118292-40-3**, Tazarotene
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(combination **therapy** with tazarotene plus a topical corticosteroid for the treatment of plaque psoriasis in humans)

REFERENCE COUNT: 27
REFERENCE(S):
(6) Gollnick, H; Br J Dermatol 1996, V135, P6 CAPLUS
(9) Guzzo, C; Dermatol Clin 1997, V15, P59 CAPLUS
(15) McMichael, A; Br J Dermatol 1996, V135, P60 CAPLUS
(18) Nagpal, S; J Invest Dermatol 1996, V106, P269 CAPLUS
(19) Nagpal, S; J Invest Dermatol 1997, V109, P91 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 7 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:306119 CAPLUS
DOCUMENT NUMBER: 130:347389
TITLE: Optimizing therapy: tazarotene in combination with phototherapy
AUTHOR(S): Lowe, N. J.
CORPORATE SOURCE: University of California Los Angeles and Clinical Research Specialists, Los Angeles, CA, 90404-2115, USA
SOURCE: Br. J. Dermatol., Suppl. (1999), 140(54), 8-11
CODEN: BJDSA9; ISSN: 0366-077X
PUBLISHER: Blackwell Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Preliminary results from psoriatic patients in a clin. trial investigating combination phototherapy with tazarotene are reported. The addn. of tazarotene to UVB phototherapy increased the percentage of patients achieving treatment success (.gtoreq.50% global improvement of psoriasis) from 60% to 100% at Day 81. The UVB plus tazarotene combination achieved consistently greater redns. in the elevation and scaling of difficult-to-treat psoriatic plaques than UVB phototherapy alone or UVB phototherapy plus vehicle gel. The tazarotene combination therapy also achieved initial treatment success in less than half the time needed with phototherapy alone (median of 32 vs. 67 days). Combining UVB phototherapy with tazarotene treatment appears to offer a valuable therapeutic option that is more effective and faster than UVB phototherapy alone.

IT **118292-40-3**, Tazarotene
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(tazarotene plus UVB **phototherapy** for treatment of human psoriasis)

REFERENCE COUNT: 16
REFERENCE(S):
(1) Baadsgaard, O; J Invest Dermatol 1987, V89, P113 MEDLINE
(2) Boehm, M; Exp Opin Invest Drugs 1995, V4, P593 CAPLUS
(5) Iest, J; Br J Dermatol 1989, V120, P665 MEDLINE
(6) Koo, J; J Am Acad Dermatol 1998, V39, PS144 MEDLINE
Searched by Edward Hart 305-9203

(13) McKenna, K; Arch Dermatol 1995, V131, P1305
CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 8 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:7818 CAPLUS
DOCUMENT NUMBER: 130:49290
TITLE: Tazarotene and UVB phototherapy treatment for psoriasis
INVENTOR(S): Sefton, John; Lew-Kaya, Deborah A.
PATENT ASSIGNEE(S): Allergan Sales, Inc., USA
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9856375 | A1 | 19981217 | WO 1998-US11989 | 19980610 |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| AU 9879575 | A1 | 19981230 | AU 1998-79575 | 19980610 |
| AU 726141 | B2 | 20001102 | | |
| EP 1001770 | A1 | 20000524 | EP 1998-930109 | 19980610 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |

PRIORITY APPLN. INFO.: US 1997-49385 P 19970611
WO 1998-US11989 W 19980610

AB The present invention provides a method for treating psoriasis in a human subject by topically applying to the psoriasis of said subject an effective amt. of tazarotene and an effective amt. of UVB radiation. Preferably tazarotene is applied as a 0.05 % or 0.1 %, by wt., gel.

IT **118292-40-3**, Tazarotene
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(tazarotene and UVB **phototherapy** treatment for psoriasis)

REFERENCE COUNT: 3
REFERENCE(S): (1) Allergan Inc; WO 9533489 A 1995 CAPLUS
(2) Carl, W; Journal of the American Academy of Dermatology PT2 suppl 1982, V6(4)
(3) Mark, L; Dermatologic Clinics 1995, V13(4), P915

L11 ANSWER 9 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:547675 CAPLUS
DOCUMENT NUMBER: 129:310840
TITLE: Topical drug treatment in acne
AUTHOR(S): Gollnick, H.; Schramm, M.
CORPORATE SOURCE: Department of Dermatology and Venereology, Otto von Guericke University, Magdeburg, D-39120, Germany
SOURCE: Dermatology (Basel) (1998), 196(1), 119-125
CODEN: DERAEG; ISSN: 1018-8665
PUBLISHER: S. Karger AG
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The main part of acne treatment uses the topical route. More than 50% of acne patients belong to the group presenting with acne comedonica and

papulopustulosa. Whenever small nodes or scarring occur, systemic comedication is indicated, however. Topical treatment affects at least three of the four main pathogenetic factors responsible for the development of acne, i.e. hyperseborrhea, hyperkeratosis, microbial colonization and inflammation. The agents currently available influence at least one of these factors but often have addnl. properties. Those which act in a comedolytic and anticomedogenic manner are the retinoids tretinoin, isotretinoin, adapalene and tazarotene and azelaic acid as well, some of the retinoids having addnl. anti-inflammatory potency. Azelaic acid has strong antibacterial potency without inducing bacterial resistance similar to benzoyl peroxide. Unfortunately, bacterial resistances are beginning to emerge as a significant problem. Propionibacterium acnes resistance to the commonly used erythromycin can also be transferred to clindamycin, whereas no resistance has been reported to nadifloxacin so far. Today, more and more evidence comes up that topical antiandrogenic agents will soon be available to treat the important factor seborrhea, because patients with marked hyperseborrhea frequently relapse. Finally, liposome encapsulation of agents including phospholipids can enhance penetration and efficacy but, particularly with regard to retinoids, can lead to higher absorption and adverse drug reactions.

IT **118292-40-3**, Tazarotene
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(topical **drug** treatment in acne in humans)

L11 ANSWER 10 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:306660 CAPLUS
DOCUMENT NUMBER: 129:49074
TITLE: Tazarotene
AUTHOR(S): Foster, Rachel H.; Brogden, Rex N.; Benfield, Paul
CORPORATE SOURCE: Adis International Limited, Auckland, N. Z.
SOURCE: Drugs (1998), 55(5), 705-711
CODEN: DRUGAY; ISSN: 0012-6667
PUBLISHER: Adis International Ltd.
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 29 refs. Tazarotene is a topical retinoid that appears to exert its effects via retinoic acid receptors. It normalizes differentiation and proliferation of keratinocytes and has an anti-inflammatory effect. Topical 0.05% or 0.1% tazarotene gel was effective in the treatment of plaque psoriasis in clin. trials and its therapeutic effect was maintained for .gtoreq.12 wk in some patients after discontinuation of treatment. In 1 study in patients with psoriasis, tazarotene had an efficacy similar to that of fluocinonide in reducing plaque elevation, but not erythema. In another study, tazarotene was less effective than fluocinonide. Combination treatment with tazarotene plus a mid- or high-potency corticosteroid was more effective in the treatment of psoriasis than tazarotene alone. Topical 0.1% tazarotene gel reduced lesion counts in patients with mild to moderate facial acne vulgaris. Skin irritation is a common adverse event with topical tazarotene, but it is mainly of mild to moderate severity. Tazarotene is not recommended for use in women who are, or may become, pregnant.

IT **118292-40-3**, Tazarotene
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BPR (Biological process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**pharmacol**. of)

L11 ANSWER 11 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:175698 CAPLUS
DOCUMENT NUMBER: 128:213396
TITLE: Use of retinoids for the preparation of a medicament
Searched by Edward Hart 305-9203

for treating disorders related to VEGF overexpression
INVENTOR(S): Vega, Barbara; Michel, Serge; Ladoux, Annie; Frelin, Christian
PATENT ASSIGNEE(S): Centre International de Recherches Dermatologiques Galderma, (Cird Galderma), Fr.
SOURCE: Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| EP 826368 | A1 | 19980304 | EP 1997-401998 | 19970827 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| FR 2752734 | A1 | 19980306 | FR 1996-10685 | 19960902 |
| FR 2752734 | B1 | 19981106 | | |
| CA 2213690 | AA | 19980302 | CA 1997-2213690 | 19970829 |
| AU 9736090 | A1 | 19980305 | AU 1997-36090 | 19970829 |
| AU 712750 | B2 | 19991118 | | |
| BR 9702808 | A | 19990105 | BR 1997-2808 | 19970829 |
| JP 10087481 | A2 | 19980407 | JP 1997-236308 | 19970901 |
| JP 3107775 | B2 | 20001113 | | |
| US 6001885 | A | 19991214 | US 1997-921511 | 19970902 |

PRIORITY APPLN. INFO.: FR 1996-10685 A 19960902

AB Retinoids, particularly anti-AP1 are used for the prepn. of a medicament for treating disorders related to VEGF (vascular endothelial growth factor) overexpression, e.g. psoriasis and Kaposi syndrome. Thus, 6-[3-(1-adamantyl)-4-methoxyphenyl]2-naphthoic acid at 10-8 M concn. inhibited the expression of VEGF in cultured keratinocytes by 58% as compared with glyceraldehyde phosphate dehydrogenase.

IT **204332-18-3**
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(use of retinoids for prepn. of **medicament** for treating disorders related to VEGF overexpression)

L11 ANSWER 12 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1997:706784 CAPLUS
DOCUMENT NUMBER: 128:18287
TITLE: Tazarotene: a review of its pharmacological profile and potential for clinical use in psoriasis
AUTHOR(S): Duvic, Madeleine
CORPORATE SOURCE: Section of Dermatology, MD Anderson Cancer Center, Houston, TX, 77030, USA
SOURCE: Expert Opin. Invest. Drugs (1997), 6(10), 1537-1551
CODEN: EOIDER; ISSN: 0967-8298
PUBLISHER: Ashley Publications
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review, with 45 refs. Psoriasis appears to be a T-cell-mediated, HLA-assocd. genetic skin disease that profoundly alters epidermal differentiation in a reversible manner. The topical treatment of mild-to-moderate stable plaque psoriasis is limited by side-effects, cosmetic problems, and often by unsatisfactory efficacy, while systemic therapy is usually not warranted because of safety concerns. Tazarotene is the first member of a novel acetylenic and non-isomerisable class of retinoids to undergo extensive clin. testing. Tazarotene therapy regulates gene transcription via interaction with specific nuclear retinoic acid receptors (RARs), thereby modulating the three key pathogenic factors in psoriasis. Systemic absorption is minimal and, in contrast to some other retinoids, elimination is rapid. The results of

Phase II and Phase III controlled clin. studies have shown tazarotene to be an effective treatment for psoriasis. The clin. response is rapid, and in many patients was sustained for several weeks following discontinuation of therapy. Adverse effects are generally limited to mild-to-moderate local effects, as seen with other topical retinoid therapies. Convenient once-daily application of tazarotene gel is effective first-line monotherapy for mild-to-moderate plaque psoriasis, providing rapid and sustained benefits, while minimal systemic absorption and rapid elimination appear to limit the potential for systemic side-effects.

IT **118292-40-3**, Tazarotene
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**pharmacol**. profile and potential for clin. use in psoriasis of tazarotene)

L11 ANSWER 13 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1997:534257 CAPLUS
DOCUMENT NUMBER: 127:199534
TITLE: Tazarotene, a topical retinoid in psoriasis
AUTHOR(S): Thesen, Rolf
CORPORATE SOURCE: Arzneimittelinformationsstelle, Bundesvereinigung Deutscher Apothekerverbande, Eschborn, D-65760, Germany
SOURCE: Pharm. Ztg. (1997), 142(33), 2792-2796
CODEN: PHZIAP; ISSN: 0031-7136
PUBLISHER: Govi-Verlag Pharmazeutischer Verlag
DOCUMENT TYPE: Journal; General Review
LANGUAGE: German

AB A review with 8 refs. is given on the chem. classification, indications and application, effects and side-effects, contraindications, interactions, pharmacokinetics and clin. studies of tazarotene.

IT **118292-40-3**, Tazarotene
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(for psoriasis **therapy**)

L11 ANSWER 14 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1996:664619 CAPLUS
DOCUMENT NUMBER: 125:284367
TITLE: Nitric oxide synthase inhibitors for topical pharmaceuticals or cosmetics
INVENTOR(S): Giacomoni, Paolo
PATENT ASSIGNEE(S): Oreal S. A., Fr.
SOURCE: PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9626711 | A1 | 19960906 | WO 1996-FR296 | 19960226 |
| W: AU, BR, CA, CN, CZ, FI, HU, JP, KR, MK, MX, NO, NZ, PL, RU, TR, UA, US, VN | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| FR 2730930 | A1 | 19960830 | FR 1995-2267 | 19950227 |
| FR 2730930 | B1 | 19970404 | | |
| CA 2212101 | AA | 19960906 | CA 1996-2212101 | 19960226 |
| AU 9648830 | A1 | 19960918 | AU 1996-48830 | 19960226 |
| EP 812184 | A1 | 19971217 | EP 1996-904906 | 19960226 |
| R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE | | | | |
| JP 10503217 | T2 | 19980324 | JP 1996-526058 | 19960226 |
| JP 2975431 | B2 | 19991110 | | |

| | | | | |
|---|---|---|---|---|
| NO 9703900 | A | 19971027 | NO 1997-3900 | 19970825 |
| FI 9703492 | A | 19970826 | FI 1997-3492 | 19970826 |
| PRIORITY APPLN. INFO.: | | | FR 1995-2267 | 19950227 |
| | | | WO 1996-FR296 | 19960226 |

AB At least 1 nitric oxide synthase inhibitor such as an amino acid deriv., is used in a cosmetic or a pharmaceutical compn. and reduces the skin irritant effect of topically applied formulations. Thus, a cosmetic lotion consisted of di-Na EDTA 0.1, Poloxamer 182 0.2, ethoxydiglycol 5, and NG,NG-dimethylarginine 1, and water qs to 100%. The antiirritant activity of the compn. contg. 1% NG,NG-dimethylarginine (applied topically to rats) was demonstrated.

IT **118292-40-3**, Tazarotene
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nitric oxide synthase inhibitors for topical **pharmaceuticals** or cosmetics)

L11 ANSWER 15 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1996:641893 CAPLUS
DOCUMENT NUMBER: 125:317239
TITLE: Safety, efficacy and duration of therapeutic effect of tazarotene used in the treatment of plaque psoriasis
AUTHOR(S): Weinstein, G. D.
CORPORATE SOURCE: Univ. California, Irvine, CA, USA
SOURCE: Br. J. Dermatol., Suppl. (1996), 135(49, Retinoids for the Future), 32-36
CODEN: BJDSA9; ISSN: 0366-077X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Topical therapies are first-line treatment for mild/limited stable plaque psoriasis. Disadvantages of currently available therapies include lack of short-term efficacy and long-term maintenance, adverse effects, and cosmetic problems. Tazarotene is a new topical retinoid which has proven to be efficacious in the treatment of mild-to-moderate plaque psoriasis. Results from a large, multicenter, pivotal study show that a once-daily application is as effective as a first-line monotherapy, providing rapid resoln. of signs and symptoms and sustained therapeutic effects in some patients. Tazarotene gel is cosmetically acceptable, and is minimally absorbed systemically, with adverse events limited to local irritation.

IT **118292-40-3**, Tazarotene
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(safety, efficacy and duration of **therapeutic** effect of tazarotene used in treating humans with plaque psoriasis)

L11 ANSWER 16 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1994:548304 CAPLUS
DOCUMENT NUMBER: 121:148304
TITLE: Pharmacokinetics of a novel retinoid AGN 190168 and its metabolite AGN 190299 after intravenous administration of AGN 190168 to rats
AUTHOR(S): Hsyu, Poe-Hirr; Bowen, Beta; Tang-Liu, Diane
CORPORATE SOURCE: Dept. Clinical Pharmacokinetics, Glaxo Inc., Research Triangle Park, NC, 27709, USA
SOURCE: Biopharm. Drug Dispos. (1994), 15(5), 347-57
CODEN: BDDID8; ISSN: 0142-2782
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The pharmacokinetics of AGN 190168, a novel synthetic retinoid, and its major metabolite, AGN 190299, in rat blood after i.v. administration was investigated. Approx. 4.4 mg kg-1 (high dose) or 0.49 mg kg-1 (low dose) of AGN 190168 was administered to rats via the femoral vein. Blood was collected from the femoral artery at various time points during a 8 h

period. Blood concns. of AGN 190168 and AGN 190299 were detd. by a specific and sensitive high-pressure liq. chromatog. (HPLC) method. AGN 190168 was rapidly metabolized in rats. The only detectable drug-related species in the blood was AGN 190299. Therefore, only pharmacokinetics of AGN 190299 were calcd. Elimination of AGN 190299 appeared to be non-linear after administration of the high dose, and linear after administration of the low dose. The max. elimination rate (Vmax) and the concn. at half of the Vmax (km), as estd. by a Michaelis-Menten one-compartment model, were 7.58 .+-. 2.42 .mu.g min-1 (mean .+-. SD) and 6.10 .+-. 1.58 .mu.g mL-1, resp. The value of the area under the blood concn. time curve (AUC) was 9.54 .+-. 1.68 .mu.g mL-1 after administration of the high dose and 0.594 .+-. 0.095 .mu.g h mL-1 after administration of the low dose. The clearance value was 7.79 .+-. 1.20 mL min-1 kg-1 after the high dose, statistically different from that after the low dose ($p<0.05$), 14.0 .+-. 2.2 mL min-1 kg-1. The terminal half-life (t1/2) was 1.25 .+-. 0.74 h for the high-dose group and 0.95 .+-. 0.16 h for the low-dose group. Study results demonstrate rapid systemic metab. of AGN 190168 to AGN 190299, non-linear pharmacokinetics of AGN 190299 after the 4.4 mg kg-1 dose, and the lack of difference in diposition profiles between sexes after i.v. administration of AGN 190168 to rats.

IT **118292-40-3**, AGN 190168
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(**pharmacokinetics** of)

IT **118292-41-4**, AGN 190299
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(**pharmacokinetics** of, as retinoid AGN 190168 metabolite)

L11 ANSWER 17 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1992:490152 CAPLUS
DOCUMENT NUMBER: 117:90152
TITLE: Preparation of [(thio)chromanylethynyl]pyridines having retinoid-like activity
INVENTOR(S): Chandraratna, Roshantha A. S.
PATENT ASSIGNEE(S): Allergan, Inc., USA
SOURCE: PCT Int. Appl., 70 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9206092 | A1 | 19920416 | WO 1991-US6900 | 19910924 |
| W: AU, BB, BG, BR, CA, FI, HU, JP, KP, KR, LK, MC, MG, MW, NO, PL, RO, SD, SU | | | | |
| RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GN, GR, IT, LU, ML, MR, NL, SE, SN, TD, TG | | | | |
| CA 2091763 | AA | 19920410 | CA 1991-2091763 | 19910924 |
| AU 9186149 | A1 | 19920428 | AU 1991-86149 | 19910924 |
| AU 657100 | B2 | 19950302 | | |
| EP 555235 | A1 | 19930818 | EP 1991-917319 | 19910924 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE | | | | |
| HU 63412 | A2 | 19930830 | HU 1993-1031 | 19910924 |
| JP 06501684 | T2 | 19940224 | JP 1991-515926 | 19910924 |
| PL 168075 | B1 | 19951230 | PL 1991-299062 | 19910924 |
| ZA 9108025 | A | 19920624 | ZA 1991-8025 | 19911008 |
| NO 9301343 | A | 19930604 | NO 1993-1343 | 19930407 |

PRIORITY APPLN. INFO.: US 1990-595128 19901009
WO 1991-US6900 19910924

OTHER SOURCE(S): MARPAT 117:90152
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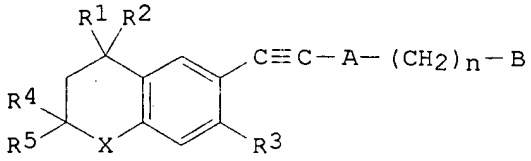


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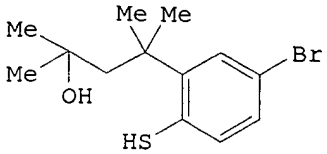



II

AB The title compds. [I; R1-R3 = H, alkyl; R4, R5 = H, alkyl, with provisos; A = pyridinyl, thienyl, furyl, pyridazinyl, pyrimidinyl, pyrazinyl, thiazolyl, oxazolyl; B = H, (un)derivatized CO2H, -CH2OH, -CHO, -COR6; R6 = (cyclo)alkyl, alkenyl; n = 0-5] having retinoid-like activity (no data), useful for treating acne, psoriasis, eczema, lupus erythematosus, dry eye syndrome, etc., and in promoting wound healing and reversing the effects of sun damage to the skin, were prepd. Esterification of 4-BrC6H4SH by Me2C:CHCOCl gave 4-BrC6H4SCOCH:CCMe2 which was cyclized by AlCl3 in CH2Cl2 at room temp. to give 4,4-dimethyl-6-bromo-2-oxothiochroman. The ring cleavage-methylation of the latter by LiClO4 and MeMgBr gave (hydroxybutyl)thiophenol (II) which was recyclized by refluxing with aq. H2SO4. The resulting 2,2,4,4-tetramethyl-6-bromothiochroman was ethynylated by Me3SiC.tplbond.CH, the protective group removed by KOH in Me2CHOH, and the product thiochromanylacetylene coupled with Et 6-chloronicotinate to give title compd. [I; R1 = R2 = R4 = R5 = Me, R3 = H, A(CH2)nB = 3-ethoxycarbonylpyrid-6-yl].

IT **134664-76-9P 134664-78-1P 134664-82-7P 142403-42-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as retinoid analog **drug**)

L11 ANSWER 18 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1992:227585 CAPLUS
DOCUMENT NUMBER: 116:227585
TITLE: Systemic pharmacokinetics of acitretin, etretinate, isotretinoin, and acetylenic retinoids in guinea pigs and obese rats
AUTHOR(S): Chien, Du Shieng; Sandri, Rhonda B.; Tang-Liu, Diane D. S.
CORPORATE SOURCE: Dep. Pharmacokinet., Allergan Inc., Irvine, CA, USA
SOURCE: Drug Metab. Dispos. (1992), 20(2), 211-17
CODEN: DMDSAI; ISSN: 0090-9556
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Etretinate, a highly lipophilic retinoid, is known to accumulate in the human body with a slow systemic elimination (half-life .apprx. 100 days) after long-term treatment. Retinoids with high lipophilicity and slow body elimination have the propensity of eliciting teratogenic effects. Therefore, synthetic retinoids with reduced systemic retention are desired. In this study, the authors evaluated the systemic pharmacokinetics of acitretin, etretinate, isotretinoin, synthetic acetylenic retinoic acids (AGN 190121, AGN 190186, and AGN 190299), and acetylenic retinoates (AGN 190073, AGN 190089, and AGN 190168) in guinea pigs following i.v. doses. Their pharmacokinetics were also measured in obese rats to probe the effect of body fat on the drug disposition of retinoids. The acetylenic retinoates were hydrolyzed to their corresponding free acids at a much faster rate than etretinate in both animal species. All retionates showed faster body clearance and larger vol. of distribution than their free acids. In the obese rats, longer elimination half-lives and slower body clearance of the retinoids, except isotretinoin, were obsd. as compared to those in the normal rats. These results suggest that body fat has a significant effect on drug disposition and slows down the systemic clearance of retinoids. Since the synthetic acetylenic retinoates rapidly converted to their less lipophilic free acids after systemic absorption, the potential accumulation of these

retinoids, as reported for lipophilic etretinate, were unlikely to occur in humans and animals.

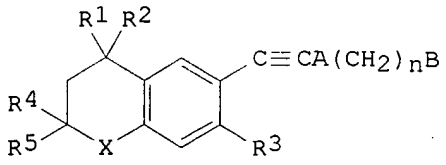
IT **118292-40-3**, AGN 190168 **118292-41-4**, AGN 190299
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(**pharmacokinetics** of, lipophilicity and body fat effect on)

L11 ANSWER 19 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:514352 CAPLUS
DOCUMENT NUMBER: 115:114352
TITLE: Preparation of 6-(arylalkynyl)benzo(thio)pyrans as retinoate analogs.
INVENTOR(S): Chandraratna, Roshanta A. S.
PATENT ASSIGNEE(S): Allergan, Inc., USA
SOURCE: Eur. Pat. Appl., 36 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| EP 419132 | A2 | 19910327 | EP 1990-310027 | 19900913 |
| EP 419132 | A3 | 19910807 | | |
| EP 419132 | B1 | 19950906 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE | | | | |
| US 5023341 | A | 19910611 | US 1989-409477 | 19890919 |
| CA 2023811 | AA | 19910320 | CA 1990-2023811 | 19900822 |
| IL 95475 | A1 | 19951127 | IL 1990-95475 | 19900823 |
| ZA 9006840 | A | 19910626 | ZA 1990-6840 | 19900828 |
| ES 2076325 | T3 | 19951101 | ES 1990-310027 | 19900913 |
| AU 9062615 | A1 | 19910328 | AU 1990-62615 | 19900917 |
| AU 638275 | B2 | 19930624 | | |
| RU 2015969 | C1 | 19940715 | RU 1990-4831105 | 19900918 |
| HU 54654 | A2 | 19910328 | HU 1990-5966 | 19900919 |
| HU 207849 | B | 19930628 | | |
| CN 1050385 | A | 19910403 | CN 1990-107858 | 19900919 |
| CN 1028174 | B | 19950412 | | |
| JP 03167174 | A2 | 19910719 | JP 1990-251660 | 19900919 |
| JP 3055794 | B2 | 20000626 | | |
| HU 219464 | B | 20010428 | HU 1993-46 | 19900919 |
| US 5053523 | A | 19911001 | US 1990-610491 | 19901106 |
| US 5248777 | A | 19930928 | US 1991-731161 | 19910715 |
| US 5717094 | A | 19980210 | US 1991-731162 | 19910715 |

PRIORITY APPLN. INFO.: US 1989-409477 A 19890919
US 1990-610491 A3 19901106

OTHER SOURCE(S): MARPAT 115:114352
GI

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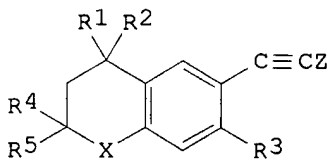


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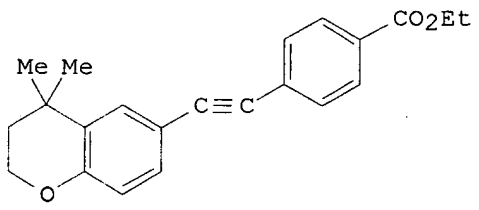



III

AB Title compds. I (R1 - R5 = H, alkyl; X = S, O, imino; A = phenylene, heteroarylene; n = 0 - 5; B = H, CO2H, CH2OH, etc.) were prepd. by coupling of heterocycles II (Z = H, metal ion, or metal ion bound to an anion, said metal ion forming a salt with the ethynyl function) with X'A(CH2)nB (X' = leaving group). Treatment of 4,4-dimethyl-6-ethynylchroman with BuLi and then with fused Zn chloride gave 4,4-dimethyl-6-chlorozincethynylchroman, which reacted with Et 4-bromobenzoate in the presence of (Ph3)4Pd to give title compd. III. I [X = S; R1 = R2 = R4 = R5 = Me; R3 = H; A(CH2)nB = Et 6-nicotinate] in vitro exhibited IC80 of 0.69 mmol against ornithine decarboxylase (ODC).

IT **118292-42-5P 120236-90-0P 120236-92-2P**
**133532-05-5P 133532-07-7P 134664-76-9P**
**134664-78-1P 134664-82-7P 135631-83-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as **drug** with retinoic acid-like activity)

L11 ANSWER 20 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:74720 CAPLUS
DOCUMENT NUMBER: 114:74720
TITLE: Systemic pharmacokinetics of acetylenic retinoids in rats
AUTHOR(S): Liu, S. S.; Sandri, R.; Tang-Liu, D. D. S.
CORPORATE SOURCE: Dep. Pharmacokinet. Pharm. Res. Dev., Allergan, Inc., Irvine, CA, 92715, USA
SOURCE: Drug Metab. Dispos. (1990), 18(6), 1071-7
CODEN: DMDSAI; ISSN: 0090-9556
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In order to widen the therapeutic index of retinoids, one approach is to synthesize retinoids with reduced systemic distribution. Sixteen acetylenic retinoids were evaluated for their systemic disposition kinetics in rats after i.v. doses. Four pharmacokinetic parameters (i.e., total body clearance, vol. of distribution at steady state, mean residence time, and the elimination half-life) were calcd. for all retinoids tested. These compds. were categorized into four groups according to their functional head group. Retinoic acids having the trimethylcyclohexenyl head group as isotretinoin most mimicked isotretinoin in disposition profiles among all retinoic acids examd. They had vols. of distribution similar to and mean residence times shorter than those of isotretinoin. Retinoic acids contg. the tetramethyltetralinyl head group as arotinoid had extensive tissue distribution and small body clearance. They had extended elimination half-lives similar to those obsd. for etretinate. Dimethylchromanyl and dimethylthiochromanyl retinoic acids were more polar; their terminal half-lives were reasonably short and no extensive tissue distribution was noted. The Et retinoates rapidly converted to their corresponding retinoic acids after i.v. doses. All Et esters had

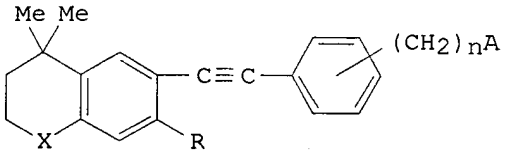
limited systemic residence times. The Et nicotinates tended to have much larger body clearance (10- to 25-fold) than the Et benzoates. After i.v. administration of Et retinoates, the Et esters disappeared rapidly, while their corresponding retinoic acids became the major drug-derived species in blood. The study results demonstrated different pharmacokinetic behaviors of acetylenic retinoids with different functional head groups.

IT **118292-40-3**, AGN 190168 **118292-41-4**, AGN 190299
**118292-42-5**, AGN 190180 **118292-43-6**, AGN 190251
**120236-90-0**, AGN 190169 **120236-91-1**, AGN 190298
**120236-92-2**, AGN 190174 **120236-93-3**, AGN 190252
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(**pharmacokinetics** of, structure in relation to)

L11 ANSWER 21 OF 21 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1989:192656 CAPLUS
DOCUMENT NUMBER: 110:192656
TITLE: (Thiochromanylethynyl)- and (chromanylethynyl)benzoic acid derivatives as retinoic acid-like drugs, their preparation, and formulations containing them
INVENTOR(S): Chandraratna, Roshantha A. S.
PATENT ASSIGNEE(S): Allergan, Inc., USA
SOURCE: Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| EP 290130 | A1 | 19881109 | EP 1988-302703 | 19880325 |
| EP 290130 | B1 | 19911106 | | |
| R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE | | | | |
| US 4810804 | A | 19890307 | US 1987-31476 | 19870326 |
| CA 1314891 | A1 | 19930323 | CA 1988-560190 | 19880301 |
| ZA 8801516 | A | 19890125 | ZA 1988-1516 | 19880303 |
| IL 85795 | A1 | 19920818 | IL 1988-85795 | 19880321 |
| DK 8801565 | A | 19880927 | DK 1988-1565 | 19880322 |
| HU 50153 | A2 | 19891228 | HU 1988-1507 | 19880324 |
| HU 201041 | B | 19900928 | | |
| FI 8801446 | A | 19880927 | FI 1988-1446 | 19880325 |
| FI 92485 | B | 19940815 | | |
| FI 92485 | C | 19941125 | | |
| NO 8801326 | A | 19880927 | NO 1988-1326 | 19880325 |
| NO 171636 | B | 19930104 | | |
| NO 171636 | C | 19930414 | | |
| AU 8813732 | A1 | 19880929 | AU 1988-13732 | 19880325 |
| AU 613608 | B2 | 19910808 | | |
| AT 69224 | E | 19911115 | AT 1988-302703 | 19880325 |
| ES 2038752 | T3 | 19930801 | ES 1988-302703 | 19880325 |
| JP 63264578 | A2 | 19881101 | JP 1988-73052 | 19880326 |
| JP 2820690 | B2 | 19981105 | | |
| CN 1031230 | A | 19890222 | CN 1988-101707 | 19880326 |
| CN 1032204 | B | 19960703 | | |

PRIORITY APPLN. INFO.: US 1987-31476 19870326
EP 1988-302703 19880325
OTHER SOURCE(S): MARPAT 110:192656
GI




I

AB The title compds. I (X = S, O, NR1; R, R1 = H, lower alkyl; n = 0-5; A = H, CO2H, or a pharmaceutically acceptable salt, ester, or amide thereof, CH2OH, etc.), useful as retinoic acid-like drugs (no data), were prepd. A mixt. of 4,4-dimethyl-6-ethynylthiochroman (prepn. given) and BuLi in hexane and THF was stirred at 0.degree. for 10 min, at room temp. for 15 min, cooled to 0.degree. and then treated with a soln. of ZnCl2 in THF. The resulting soln. was stirred at 0.degree. for 45 min and at room temp. for 20 min. A mixt. of Et 4-iodobenzoate and (Ph3P)4Pd in THF was stirred at room temp. for 20 min and then treated with the soln. of the alkynyl zinc chloride prepd. above. The resulting mixt. was stirred for 18 h at room temp. to give Et 4-(4,4-dimethylthiochroman-6-ylethynyl)benzoate. A gel contg. I 0.1, BHT 0.1, alc. USP 97.8, and hydroxypropyl cellulose 2 wt.% is given.

IT **120236-90-0P 120236-91-1P 120236-92-2P**
**120236-93-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as retinoic acid-like **drug**)

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| | | |
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| L5 | 72 | SEA FILE=REGISTRY SSS FUL L3 |
| L7 | | STR |
| L9 | 54 | SEA FILE=REGISTRY SUB=L5 SSS FUL L7 |
| L10 | 81 | SEA FILE=CAPLUS ABB=ON PLU=ON L9 |
| L11 | 21 | SEA FILE=CAPLUS ABB=ON PLU=ON L10 (L) (?PHARM? OR ?MEDIC? OR ?DRUG? OR ?THERAP?) |
| L12 | 1 | SEA FILE=CAPLUS ABB=ON PLU=ON L10 (L) (?MALIG? OR ?CANCER? OR ?TUMOR? OR ?NEOPLAS?) |
| L13 | 1 | SEA FILE=CAPLUS ABB=ON PLU=ON L12 NOT L11 |

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L13 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:805577 CAPLUS
DOCUMENT NUMBER: 130:178157
TITLE: Identification and characterization of a retinoid-induced class II tumor suppressor/growth regulatory gene
AUTHOR(S): DiSepio, Daniel; Ghosn, Corine; Eckert, Richard L.; Deucher, Anne; Robinson, Nancy; Duvic, Madeleine; Chandraratna, Roshantha A. S.; Nagpal, Sunil
CORPORATE SOURCE: Retinoid Research, Departments of Biology and Chemistry, Allergan, Inc., Irvine, CA, 92623, USA
SOURCE: Proc. Natl. Acad. Sci. U. S. A. (1998), 95(25), 14811-14815
CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Retinoids, synthetic and natural analogs of retinoic acid, exhibit potent

growth inhibitory and cell differentiation activities that account for their beneficial effects in treating hyperproliferative diseases such as psoriasis, actinic keratosis, and certain neoplasias. Tazarotene is a synthetic retinoid that is used in the clinic for the treatment of psoriasis. To better understand the mechanism of retinoid action in the treatment of hyperproliferative diseases, we used a long-range differential display-PCR to isolate retinoid-responsive genes from primary human keratinocytes. We have identified a cDNA, tazarotene-induced gene 3 (TIG3; Retinoic Acid Receptor Responder 3) showing significant homol. to the class II tumor suppressor gene, H-rev 107. Tazarotene treatment increases TIG3 expression in primary human keratinocytes and in vivo in psoriatic lesions. Increased TIG3 expression is correlated with decreased proliferation. TIG3 is expressed in a no. of tissues, and expression is reduced in cancer cell lines and some primary tumors. In breast cancer cell lines, retinoid-dependent TIG3 induction is obsd. in lines that are growth suppressed by retinoids but not in nonresponsive lines. Transient over-expression of TIG3 in T47D or Chinese hamster ovary cells inhibits colony expansion. Finally, studies in 293 cells expressing TIG3 linked to an inducible promoter demonstrated decreased proliferation with increased TIG3 levels. These studies suggest that TIG3 may be a growth regulator that mediates some of the growth suppressive effects of retinoids.

IT **118292-40-3**, Tazarotene
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BIOL (Biological study); PROC (Process)
(retinoid-induced class II **tumor** suppressor/growth regulatory gene TIG3 sequence and expression regulation by)

REFERENCE COUNT: 24
REFERENCE(S):
(1) Boehm, M; Exp Opin Invest Drugs 1995, V4, P593 CAPLUS
(2) Boylan, J; J Cell Biol 1991, V112, P965 CAPLUS
(3) Chambon, P; Semin Cell Biol 1994, V5, P115 CAPLUS
(4) DiSepio, D; J Biol Chem 1997, V272, P25555 CAPLUS
(5) Elder, J; J Invest Dermatol 1993, V100, P356 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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DICTIONARY FILE UPDATES: 15 AUG 2001 HIGHEST RN 351490-25-0

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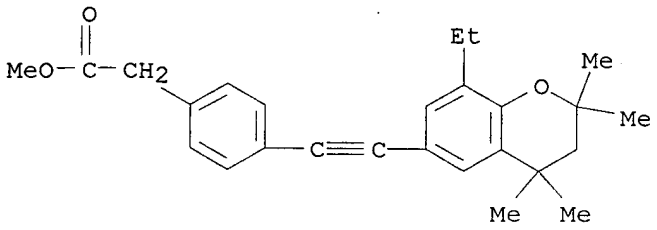
L9 ANSWER 1 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 345964-63-8 REGISTRY
CN Benzeneacetic acid, 4-[(8-ethyl-3,4-dihydro-2,2,4,4-tetramethyl-2H-1-benzopyran-6-yl)ethynyl]-, methyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C26 H30 O3

SR CA
LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:61242

L9 ANSWER 2 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 345964-41-2 REGISTRY
CN Benzeneacetic acid, 4-[(8-cyclopropyl-3,4-dihydro-2,2,4,4-tetramethyl-2H-1-benzopyran-6-yl)ethynyl]-2-fluoro-, ethyl ester (9CI) (CA INDEX NAME)
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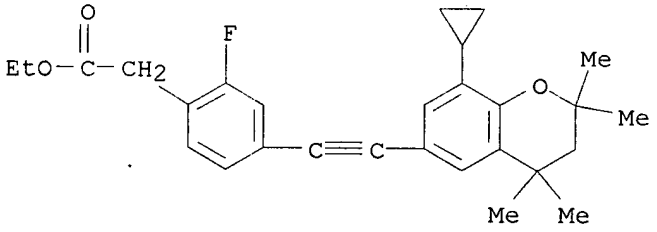
LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:61242

L9 ANSWER 3 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 345964-40-1 REGISTRY
CN Benzeneacetic acid, 4-[(8-cyclopropyl-3,4-dihydro-2,2,4,4-tetramethyl-2H-1-benzopyran-6-yl)ethynyl]-, methyl ester (9CI) (CA INDEX NAME)
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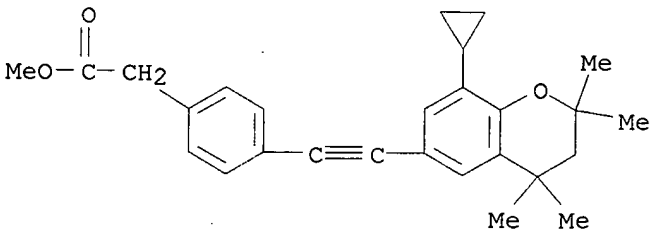
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:61242

L9 ANSWER 4 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 345964-37-6 REGISTRY
CN Benzoic acid, 4-[(8-cyclopropyl-3,4-dihydro-2,2,4,4-tetramethyl-2H-1-benzopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
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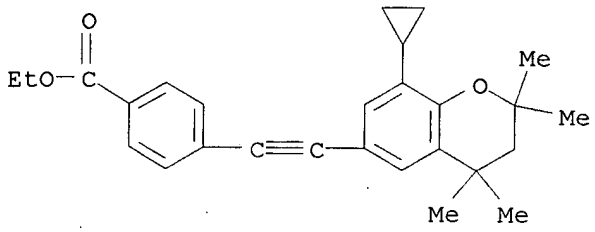
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:61242

L9 ANSWER 5 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 345964-29-6 REGISTRY
CN Benzeneacetic acid, 4-[(3,4-dihydro-2,2,4,4-tetramethyl-2H-1-benzopyran-6-yl)ethynyl]-2-fluoro-, ethyl ester (9CI) (CA INDEX NAME)
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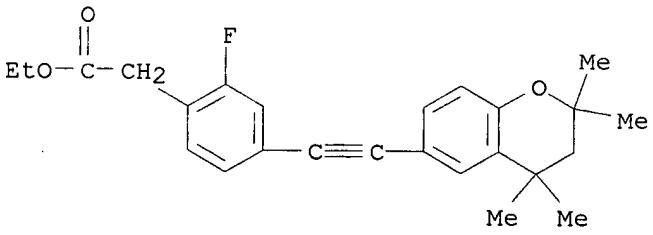
LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
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REFERENCE 1: 135:61242

L9 ANSWER 6 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 345964-28-5 REGISTRY
CN Benzoic acid, 4-[(3,4-dihydro-2,2,4,4-tetramethyl-2H-1-benzopyran-6-yl)ethynyl]-2-fluoro-, methyl ester (9CI) (CA INDEX NAME)
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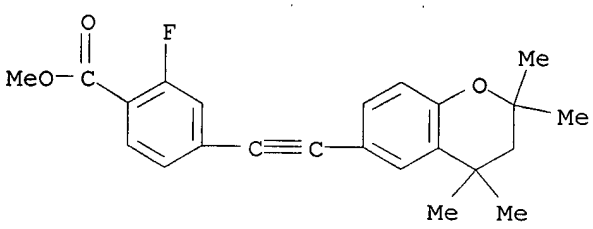
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



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REFERENCE 1: 135:61242

L9 ANSWER 7 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 345964-27-4 REGISTRY
CN Benzeneacetic acid, 4-[(3,4-dihydro-2,2,4,4-tetramethyl-2H-1-benzopyran-6-yl)ethynyl]-, methyl ester (9CI) (CA INDEX NAME)
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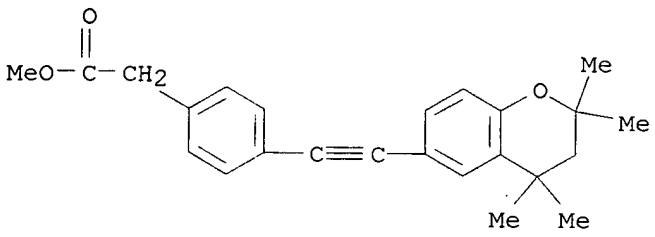
LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
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REFERENCE 1: 135:61242

L9 ANSWER 8 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 345963-44-2 REGISTRY
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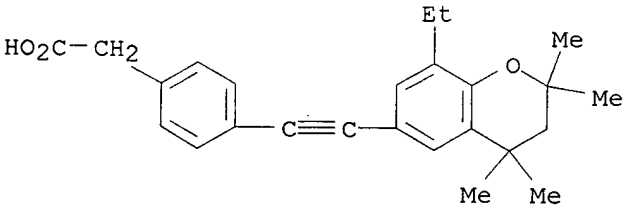
MF C25 H28 O3
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



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REFERENCE 1: 135:61242

L9 ANSWER 9 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 345963-32-8 REGISTRY
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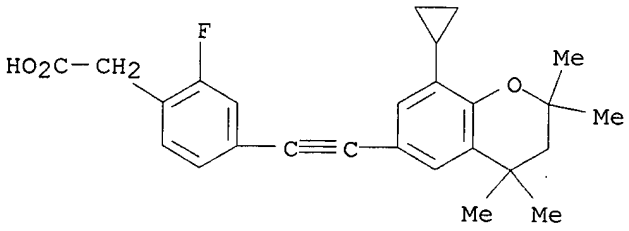

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REFERENCE 1: 135:61242

L9 ANSWER 10 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 345963-31-7 REGISTRY
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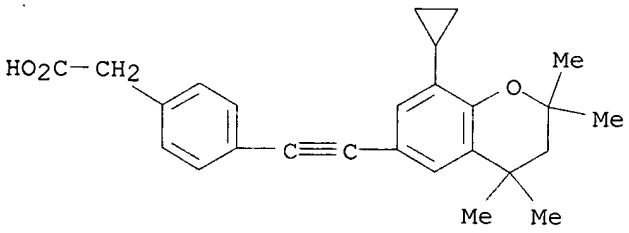

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L9 ANSWER 11 OF 54 REGISTRY COPYRIGHT 2001 ACS
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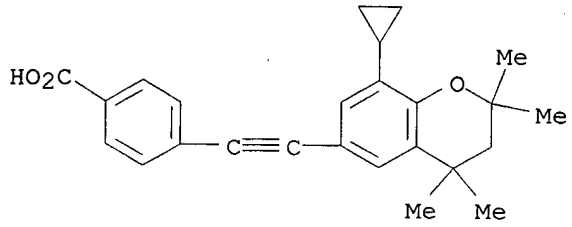

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REFERENCE 1: 135:61242

L9 ANSWER 12 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 345963-29-3 REGISTRY
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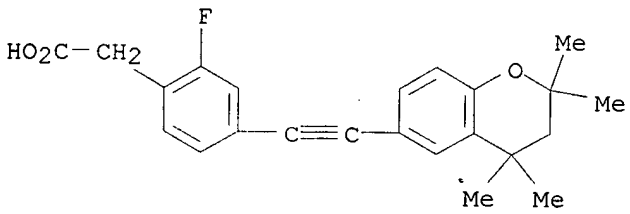

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REFERENCE 1: 135:61242

L9 ANSWER 13 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 345963-28-2 REGISTRY
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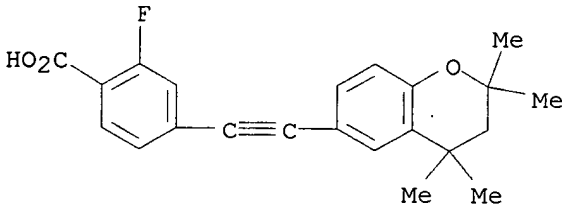
LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
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REFERENCE 1: 135:61242

L9 ANSWER 14 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 345963-27-1 REGISTRY
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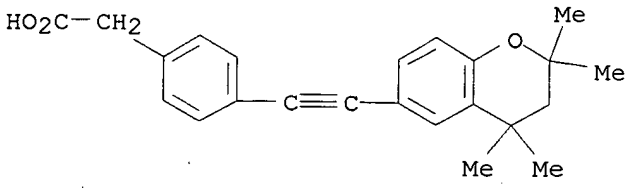

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:61242

L9 ANSWER 15 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 243963-47-5 REGISTRY
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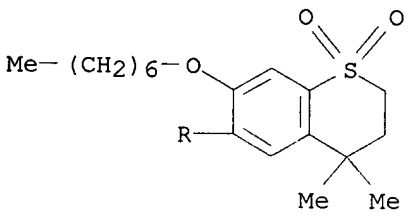
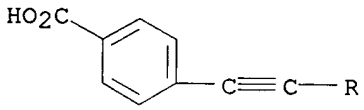
FS 3D CONCORD
MF C27 H32 O5 S
SR CA
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL





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REFERENCE 1: 131:223506

L9 ANSWER 16 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 204332-18-3 REGISTRY
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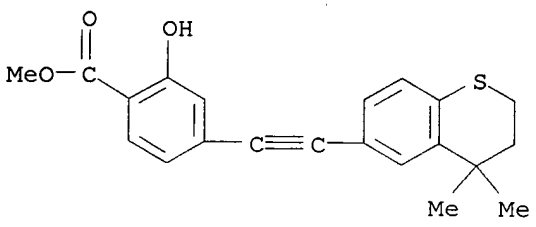
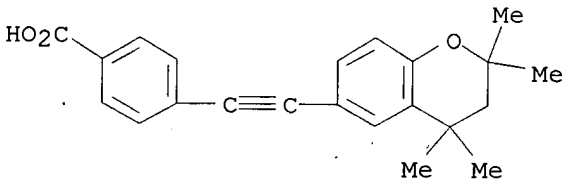
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:213396

L9 ANSWER 17 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 175555-99-4 REGISTRY
CN Benzoic acid, 4-[(3,4-dihydro-2,2,4,4-tetramethyl-2H-1-benzopyran-6-yl)ethynyl]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN AGN 191379
FS 3D CONCORD
MF C22 H22 O3
SR CA
LC STN Files: CA, CAPLUS, DRUGUPDATES, TOXLIT



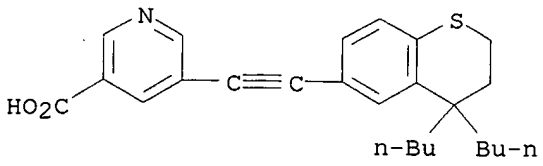
3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 132:274084

REFERENCE 2: 132:246121

REFERENCE 3: 124:279974

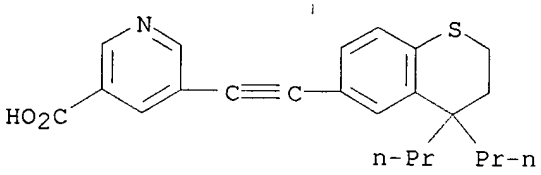
L9 ANSWER 18 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 151917-61-2 REGISTRY
CN 3-Pyridinecarboxylic acid, 5-[(4,4-dibutyl-3,4-dihydro-2H-1-benzothiopyran-6-yl)ethynyl]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 3-pyridinecarboxylic acid deriv.
FS 3D CONCORD
MF C25 H29 N O2 S
SR CA
LC STN Files: CA, CAPLUS




1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 120:77173

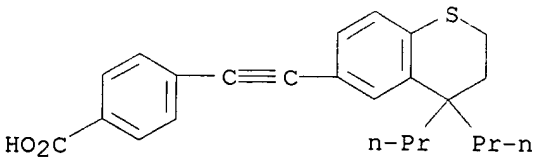
L9 ANSWER 19 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 151917-60-1 REGISTRY
CN 3-Pyridinecarboxylic acid, 5-[(3,4-dihydro-4,4-dipropyl-2H-1-benzothiopyran-6-yl)ethynyl]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 3-pyridinecarboxylic acid deriv.
FS 3D CONCORD
MF C23 H25 N O2 S
SR CA
LC STN Files: CA, CAPLUS




1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 120:77173

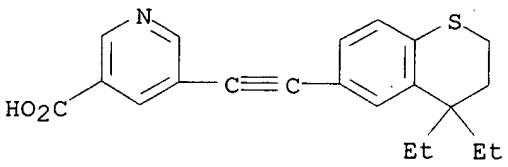
L9 ANSWER 20 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 151917-59-8 REGISTRY
CN Benzoic acid, 4-[(3,4-dihydro-4,4-dipropyl-2H-1-benzothiopyran-6-yl)ethynyl]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, benzoic acid deriv.
FS 3D CONCORD
MF C24 H26 O2 S
SR CA
LC STN Files: CA, CAPLUS




1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 120:77173

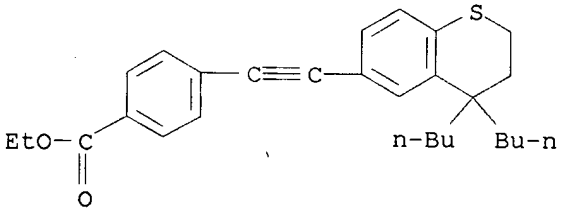
L9 ANSWER 21 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 151917-58-7 REGISTRY
CN 3-Pyridinecarboxylic acid, 5-[(4,4-diethyl-3,4-dihydro-2H-1-benzothiopyran-6-yl)ethynyl]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 3-pyridinecarboxylic acid deriv.
FS 3D CONCORD
MF C21 H21 N O2 S
SR CA
LC STN Files: CA, CAPLUS




1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 120:77173

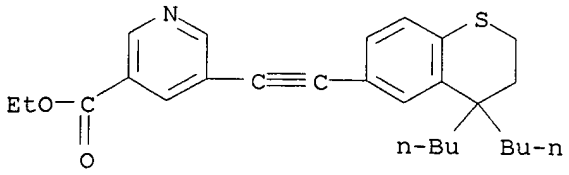
L9 ANSWER 22 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 151917-57-6 REGISTRY
CN Benzoic acid, 4-[(4,4-dibutyl-3,4-dihydro-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, benzoic acid deriv.
FS 3D CONCORD
MF C28 H34 O2 S
SR CA
LC STN Files: CA, CAPLUS




1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 120:77173

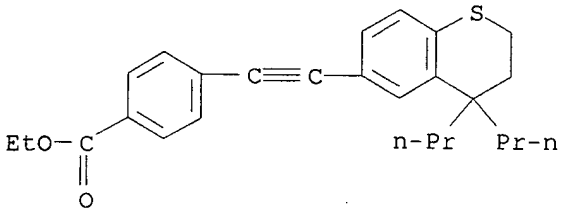
L9 ANSWER 23 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 151917-56-5 REGISTRY
CN 3-Pyridinecarboxylic acid, 5-[(4,4-dibutyl-3,4-dihydro-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 3-pyridinecarboxylic acid deriv.
FS 3D CONCORD
MF C27 H33 N O2 S
SR CA
LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 120:77173

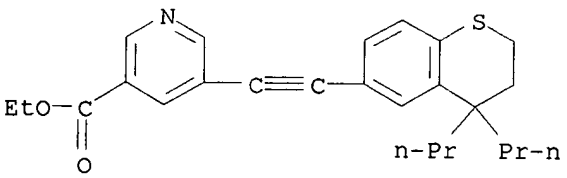
L9 ANSWER 24 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 151917-51-0 REGISTRY
CN Benzoic acid, 4-[(3,4-dihydro-4,4-dipropyl-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, benzoic acid deriv.
FS 3D CONCORD
MF C26 H30 O2 S
SR CA
LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 120:77173

L9 ANSWER 25 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 151917-50-9 REGISTRY
CN 3-Pyridinecarboxylic acid, 5-[(3,4-dihydro-4,4-dipropyl-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 3-pyridinecarboxylic acid deriv.
FS 3D CONCORD
MF C25 H29 N O2 S
SR CA
LC STN Files: CA, CAPLUS

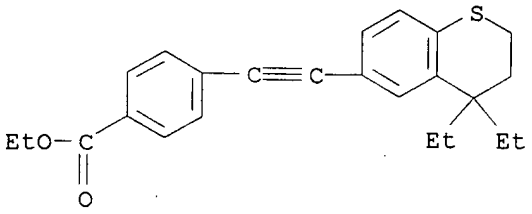


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 120:77173

Searched by Edward Hart 305-9203

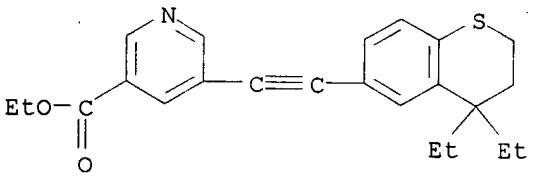
L9 ANSWER 26 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 151917-45-2 REGISTRY
CN Benzoic acid, 4-[(4,4-diethyl-3,4-dihydro-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, benzoic acid deriv.
FS 3D CONCORD
MF C24 H26 O2 S
SR CA
LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 120:77173

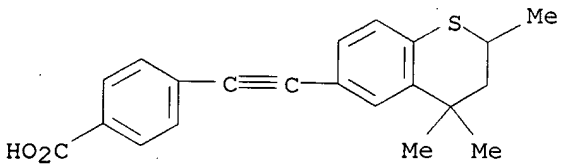
L9 ANSWER 27 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 151917-44-1 REGISTRY
CN 3-Pyridinecarboxylic acid, 5-[(4,4-diethyl-3,4-dihydro-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 3-pyridinecarboxylic acid deriv.
FS 3D CONCORD
MF C23 H25 N O2 S
SR CA
LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 120:77173

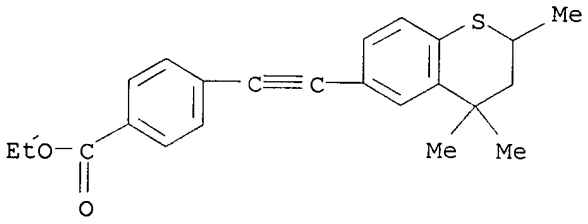
L9 ANSWER 28 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 142685-14-1 REGISTRY
CN Benzoic acid, 4-[(3,4-dihydro-2,4,4-trimethyl-2H-1-benzothiopyran-6-yl)ethynyl]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, benzoic acid deriv.
FS 3D CONCORD
MF C21 H20 O2 S
SR CA
LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 117:90148

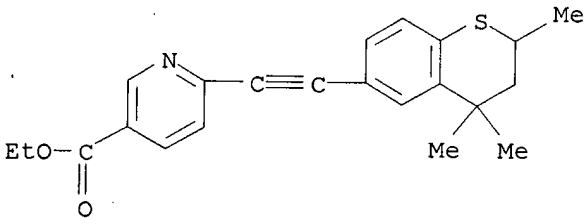
L9 ANSWER 29 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 142685-13-0 REGISTRY
CN Benzoic acid, 4-[(3,4-dihydro-2,4,4-trimethyl-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, benzoic acid deriv.
FS 3D CONCORD
MF C23 H24 O2 S
SR CA
LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 117:90148

L9 ANSWER 30 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 142403-42-7 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-2,4,4-trimethyl-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 3-pyridinecarboxylic acid deriv.
FS 3D CONCORD
MF C22 H23 N O2 S
SR CA
LC STN Files: CA, CAPLUS

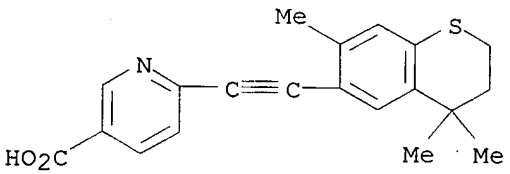


1 REFERENCES IN FILE CA (1967 TO DATE)
Searched by Edward Hart 305-9203

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 117:90152

L9 ANSWER 31 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 141492-76-4 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-4,4,7-trimethyl-2H-1-benzothiopyran-6-yl)ethynyl]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 3-pyridinecarboxylic acid deriv.
FS 3D CONCORD
MF C20 H19 N O2 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



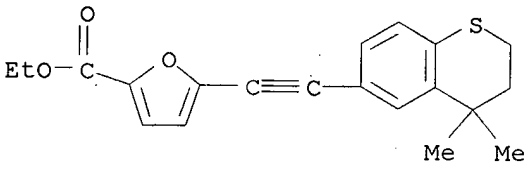

3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:225220

REFERENCE 2: 125:114895

REFERENCE 3: 116:255496

L9 ANSWER 32 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 141474-05-7 REGISTRY
CN 2-Furancarboxylic acid, 5-[(3,4-dihydro-4,4-dimethyl-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 2-furancarboxylic acid deriv.
FS 3D CONCORD
MF C20 H20 O3 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL




3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

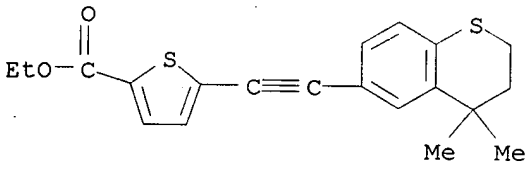
REFERENCE 1: 126:225220

REFERENCE 2: 125:114895

REFERENCE 3: 116:255496

L9 ANSWER 33 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 141474-04-6 REGISTRY

CN 2-Thiophenecarboxylic acid, 5-[(3,4-dihydro-4,4-dimethyl-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 2-thiophenecarboxylic acid deriv.
FS 3D CONCORD
MF C20 H20 O2 S2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



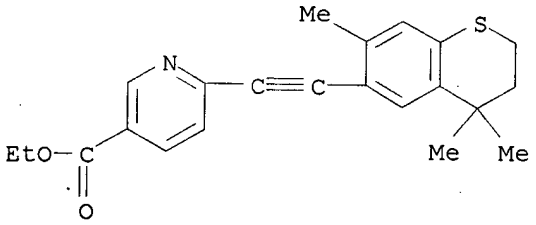
3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:225220

REFERENCE 2: 125:114895

REFERENCE 3: 116:255496

L9 ANSWER 34 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 135631-83-3 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-4,4,7-trimethyl-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 3-pyridinecarboxylic acid deriv.
FS 3D CONCORD
MF C22 H23 N O2 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:225220

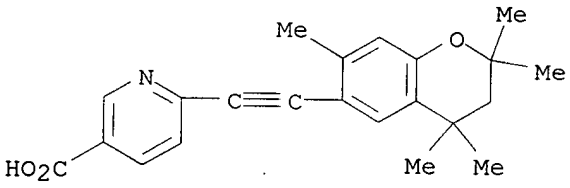
REFERENCE 2: 125:114895

REFERENCE 3: 116:255496

REFERENCE 4: 115:114352

L9 ANSWER 35 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 134690-98-5 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-2,2,4,4,7-pentamethyl-2H-1-benzopyran-6-yl)ethynyl]- (9CI) (CA INDEX NAME)

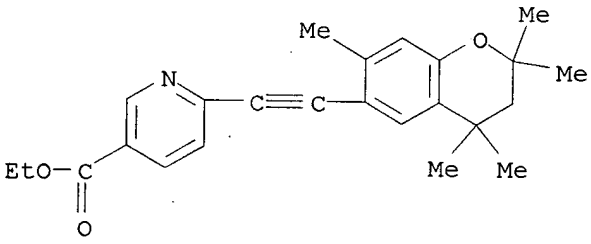
FS 3D CONCORD
MF C22 H23 N O3
SR CA
LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 115:49418

L9 ANSWER 36 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 134664-82-7 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-2,2,4,4,7-pentamethyl-2H-1-benzopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C24 H27 N O3
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



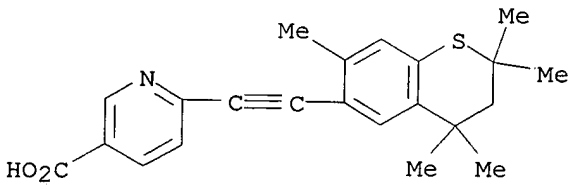
3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 117:90152

REFERENCE 2: 115:114352

REFERENCE 3: 115:49418

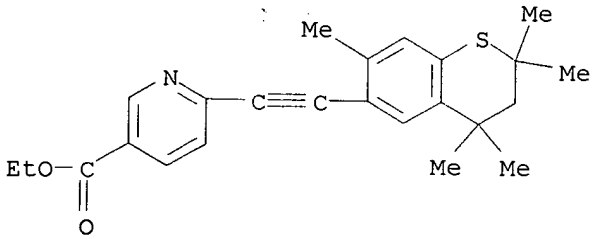
L9 ANSWER 37 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 134664-81-6 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-2,2,4,4,7-pentamethyl-2H-1-benzothiopyran-6-yl)ethynyl]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 3-pyridinecarboxylic acid deriv.
FS 3D CONCORD
MF C22 H23 N O2 S
SR CA
LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 115:49418

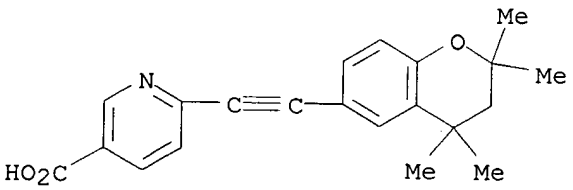
L9 ANSWER 38 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 134664-80-5 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-2,2,4,4,7-pentamethyl-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 3-pyridinecarboxylic acid deriv.
FS 3D CONCORD
MF C24 H27 N O2 S
SR CA
LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 115:49418

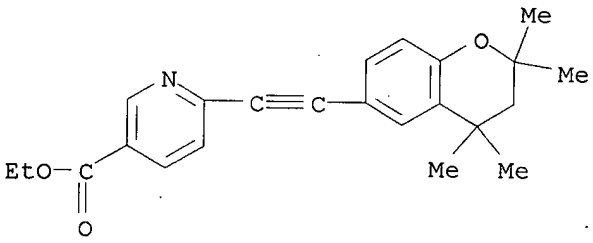
L9 ANSWER 39 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 134664-79-2 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-2,2,4,4-tetramethyl-2H-1-benzopyran-6-yl)ethynyl]- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C21 H21 N O3
SR CA
LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)
Searched by Edward Hart 305-9203

REFERENCE 1: 115:49418

L9 ANSWER 40 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 134664-78-1 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-2,2,4,4-tetramethyl-2H-1-benzopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C23 H25 N O3
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



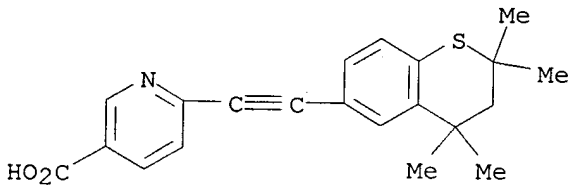

3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 117:90152

REFERENCE 2: 115:114352

REFERENCE 3: 115:49418

L9 ANSWER 41 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 134664-77-0 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-2,2,4,4-tetramethyl-2H-1-benzothiopyran-6-yl)ethynyl]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 3-pyridinecarboxylic acid deriv.
FS 3D CONCORD
MF C21 H21 N O2 S
SR CA
LC STN Files: CA, CAPLUS

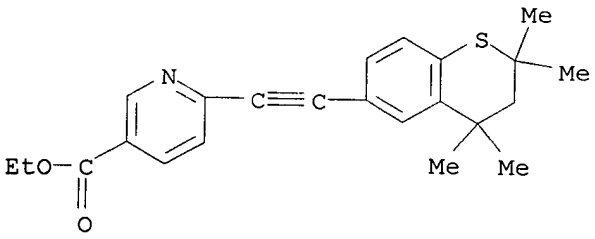



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 115:49418

L9 ANSWER 42 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 134664-76-9 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-2,2,4,4-tetramethyl-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:

CN 2H-1-Benzothiopyran, 3-pyridinecarboxylic acid deriv.
FS 3D CONCORD
MF C23 H25 N O2 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



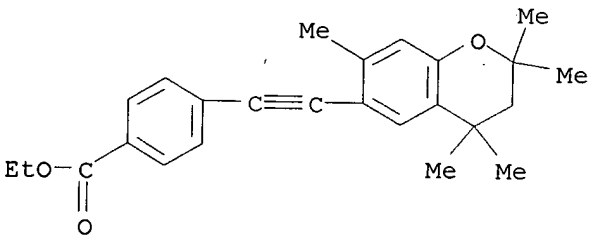

3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 117:90152

REFERENCE 2: 115:114352

REFERENCE 3: 115:49418

L9 ANSWER 43 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 133532-07-7 REGISTRY
CN Benzoic acid, 4-[2-(3,4-dihydro-2,2,4,4,7-pentamethyl-2H-1-benzopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C25 H28 O3
SR CA
LC STN Files: CA, CAPLUS, USPATFULL




3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

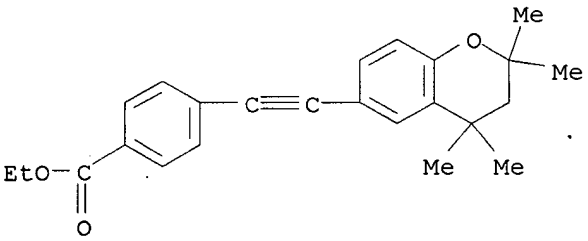
REFERENCE 1: 117:90148

REFERENCE 2: 115:114352

REFERENCE 3: 114:207029

L9 ANSWER 44 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 133532-06-6 REGISTRY
CN Benzoic acid, 4-[2-(3,4-dihydro-2,2,4,4-tetramethyl-2H-1-benzopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C24 H26 O3
SR CA

LC STN Files: CA, CAPLUS, USPATFULL

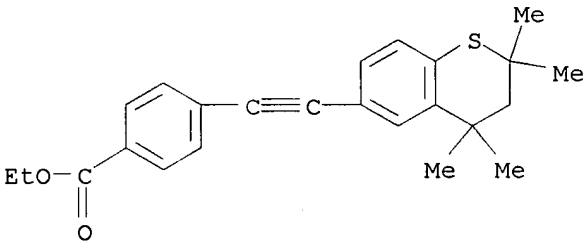


2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 117:90148

REFERENCE 2: 114:207029

L9 ANSWER 45 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 133532-05-5 REGISTRY
CN Benzoic acid, 4-[2-(3,4-dihydro-2,2,4,4-tetramethyl-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, benzoic acid deriv.
FS 3D CONCORD
MF C24 H26 O2 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



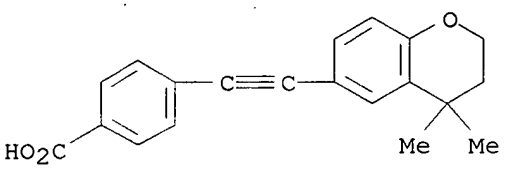
3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 117:90148

REFERENCE 2: 115:114352

REFERENCE 3: 114:207029

L9 ANSWER 46 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 120236-93-3 REGISTRY
CN Benzoic acid, 4-[(3,4-dihydro-4,4-dimethyl-2H-1-benzopyran-6-yl)ethynyl]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN AGN 190252
FS 3D CONCORD
MF C20 H18 O3
SR CA
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL



4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

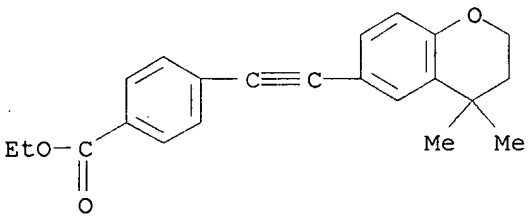
REFERENCE 1: 125:211820

REFERENCE 2: 123:132781

REFERENCE 3: 114:74720

REFERENCE 4: 110:192656

L9 ANSWER 47 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 120236-92-2 REGISTRY
CN Benzoic acid, 4-[(3,4-dihydro-4,4-dimethyl-2H-1-benzopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER NAMES:
CN AGN 190174
FS 3D CONCORD
MF C22 H22 O3
SR CA
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL



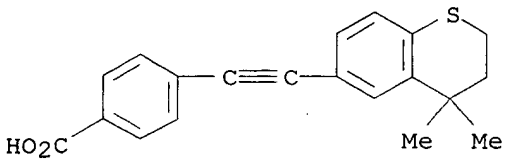
3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 115:114352

REFERENCE 2: 114:74720

REFERENCE 3: 110:192656

L9 ANSWER 48 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 120236-91-1 REGISTRY
CN Benzoic acid, 4-[(3,4-dihydro-4,4-dimethyl-2H-1-benzothiopyran-6-yl)ethynyl]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, benzoic acid deriv.
OTHER NAMES:
CN AGN 190298
FS 3D CONCORD
MF C20 H18 O2 S
SR CA
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL



4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

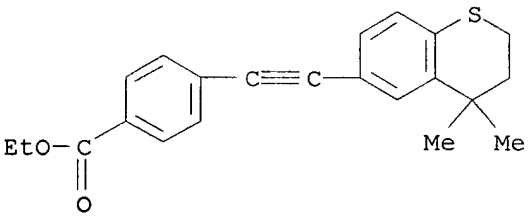
REFERENCE 1: 125:211820

REFERENCE 2: 123:132781

REFERENCE 3: 114:74720

REFERENCE 4: 110:192656

L9 ANSWER 49 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 120236-90-0 REGISTRY
CN Benzoic acid, 4-[(3,4-dihydro-4,4-dimethyl-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, benzoic acid deriv.
OTHER NAMES:
CN AGN 190169
FS 3D CONCORD
MF C22 H22 O2 S
SR CA
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL



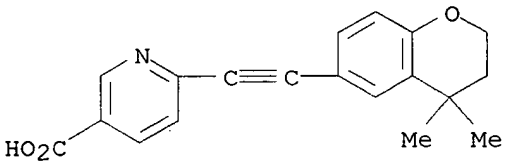
3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 115:114352

REFERENCE 2: 114:74720

REFERENCE 3: 110:192656

L9 ANSWER 50 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 118292-44-7 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-4,4-dimethyl-2H-1-benzopyran-6-yl)ethynyl]-, potassium salt (9CI) (CA INDEX NAME)
MF C19 H17 N O3 . K
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
CRN (118292-43-6)

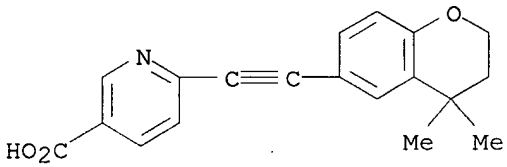


● K

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 110:38904

L9 ANSWER 51 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 118292-43-6 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-4,4-dimethyl-2H-1-benzopyran-6-yl)ethynyl]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN AGN 190251
FS 3D CONCORD
MF C19 H17 N O3
CI COM
SR CA
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL



7 REFERENCES IN FILE CA (1967 TO DATE)
7 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:225220

REFERENCE 2: 125:211820

REFERENCE 3: 125:114895

REFERENCE 4: 123:132781

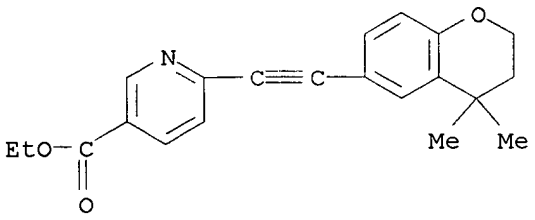
REFERENCE 5: 116:255496

REFERENCE 6: 114:74720

REFERENCE 7: 110:38904

L9 ANSWER 52 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 118292-42-5 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-4,4-dimethyl-2H-1-benzopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER NAMES:
CN AGN 190180
FS 3D CONCORD
MF C21 H21 N O3

SR CA
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL



6 REFERENCES IN FILE CA (1967 TO DATE)
6 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:225220

REFERENCE 2: 125:114895

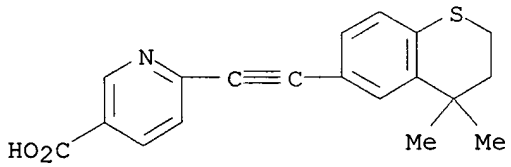
REFERENCE 3: 116:255496

REFERENCE 4: 115:114352

REFERENCE 5: 114:74720

REFERENCE 6: 110:38904

L9 ANSWER 53 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 118292-41-4 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-4,4-dimethyl-2H-1-benzothiopyran-6-yl)ethynyl]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 3-pyridinecarboxylic acid deriv.
OTHER NAMES:
CN AGN 190299
CN Tazarotenic acid
FS 3D CONCORD
MF C19 H17 N O2 S
SR CA
LC STN Files: BIOBUSINESS, BIOSIS, CA, CAPLUS, IPA, MEDLINE, TOXLINE, TOXLIT, USPATFULL



19 REFERENCES IN FILE CA (1967 TO DATE)
19 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 134:125939

REFERENCE 2: 133:38255

REFERENCE 3: 131:194472

REFERENCE 4: 130:187230

REFERENCE 5: 128:110841

REFERENCE 6: 127:117120

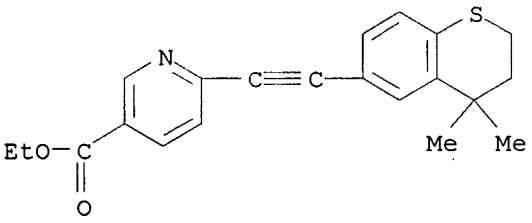
REFERENCE 7: 127:117020

REFERENCE 8: 126:225220

REFERENCE 9: 125:214279

REFERENCE 10: 125:212709

L9 ANSWER 54 OF 54 REGISTRY COPYRIGHT 2001 ACS
RN 118292-40-3 REGISTRY
CN 3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-4,4-dimethyl-2H-1-benzothiopyran-6-yl)ethynyl]-, ethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1-Benzothiopyran, 3-pyridinecarboxylic acid deriv.
OTHER NAMES:
CN AGN 190168
CN Tazarotene
CN Tazorac
CN Zorac
FS 3D CONCORD
MF C21 H21 N O2 S
SR CA
LC STN Files: ADISINSIGHT, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CIN, DIOGENES, DRUGNL, DRUGPAT, DRUGUPDATES, EMBASE, IMSDIRECTORY, IPA, MEDLINE, MRCK*, PHAR, PROMT, RTECS*, SYNTHLINE, TOXLINE, TOXLIT, USAN, USPATFULL
(*File contains numerically searchable property data)
Other Sources: WHO




66 REFERENCES IN FILE CA (1967 TO DATE)
67 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:87197

REFERENCE 2: 135:40928

REFERENCE 3: 135:24671

REFERENCE 4: 134:331617

REFERENCE 5: 134:188149

REFERENCE 6: 134:125939

REFERENCE 7: 134:105670

REFERENCE 8: 133:213178

REFERENCE 9: 133:213151

REFERENCE 10: 133:198700